F.E. Everett Turnpike
Tolling & Widening Feasibility Study

Public Informational Meetings

Manchester ________ - November 16, 2010
Nashua __________ - November 17, 2010
Bedford __________ - November 18, 2010
Merrimack __________ - November 22, 2010

Christopher Waszczuk, P.E.
Administrator
New Hampshire Department of Transportation Bureau of Turnpikes

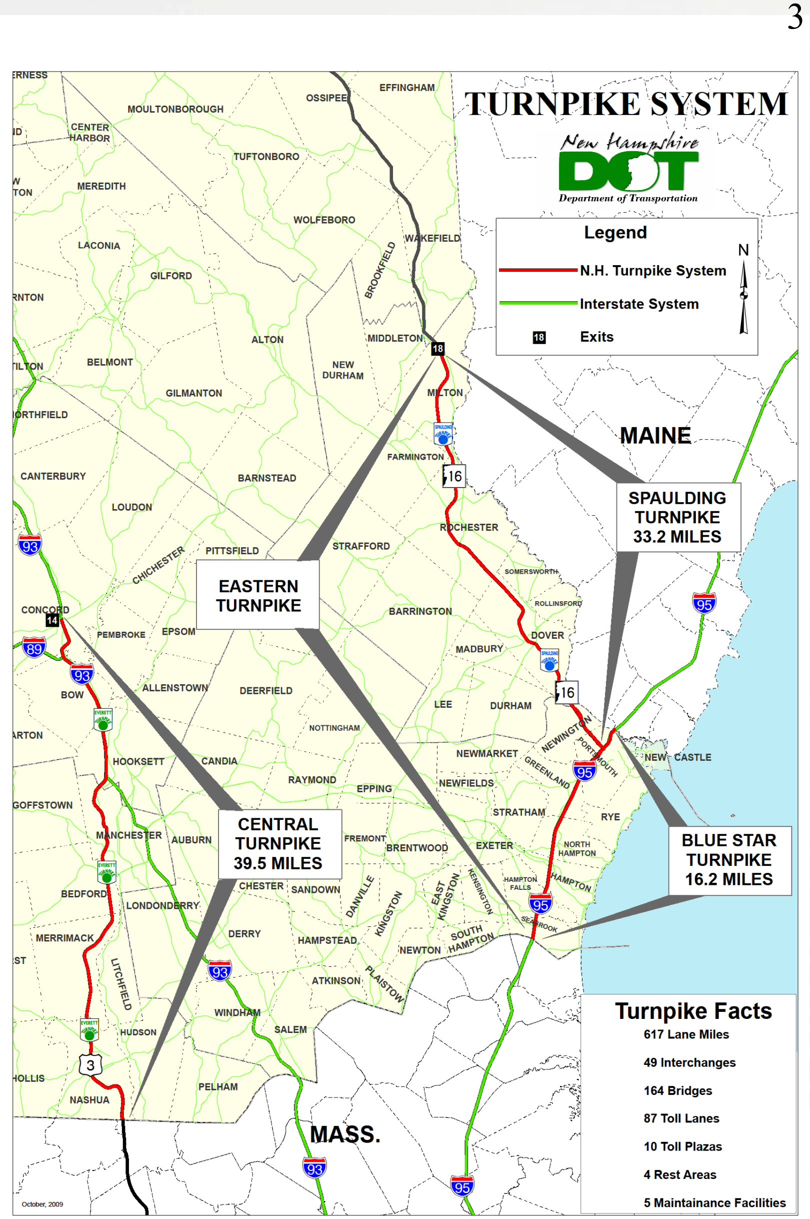
Meeting Agenda

- Turnpike System
- Study Area & Study Focus
- Pertinent Tolling Issues
- Pertinent Widening Issues
- Necessity & Feasibility of Widening
- Conceptual Plans
- Tolling Study Methodology
- Tolling Alternatives
- Financial Implications of Alternatives
- Next Steps
- Question and Comment Period

Turnpike System

- 3 Turnpike Segments
- 89 Miles Long
- 164 Bridges
- 10 Toll Facilities
- Enterprise Fund – All Turnpike revenue must be used on the System.
- Turnpike Revenue pays for:
  - ➢ Operating & Maintenance Costs
  - ➢ Debt Service
  - ➢ R&R Work
  - ➢ Capital Improvements

➢ **FY10**: 108M transactions
$116M toll revenue



Study of FE Everett Turnpike

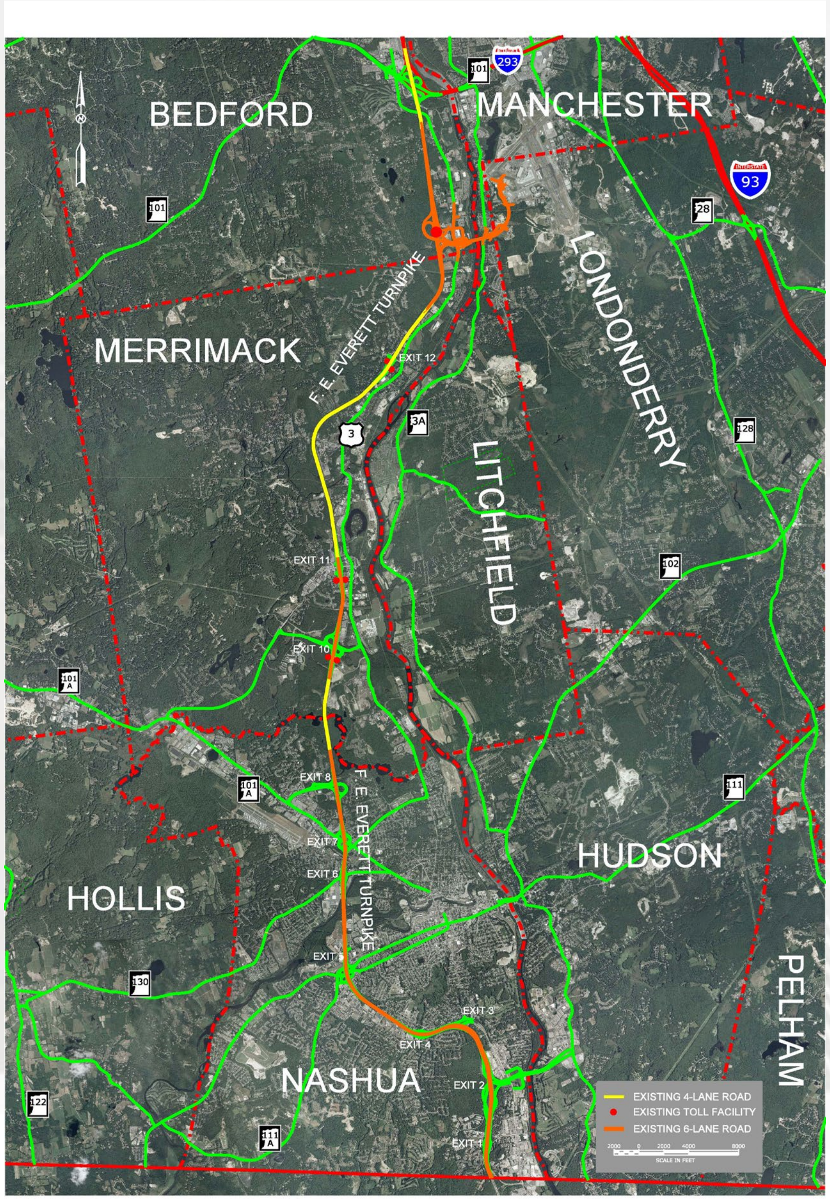
- HB 2010 Legislation
  - Adopted TYP & Established a Study of FEET
  - Signed into law June 28, 2010
- Primary Components of Study
  - Identify best location for NB & SB open road toll lanes
  - Investigate feasibility of eliminating 1 or more Merrimack ramp plazas
  - Investigate necessity & feasibility of widening two-lane segments (between Exit 8 & I-293 Interchange)

Pertinent Legislation

- HB2010 (2010 Legislative Session)
- HB391 (2009 Legislative Session)
  - Authorized Open Road Tolling on Turnpike Mainlines
    - Hampton ORT ($17.8M) opened 6/17/10
    - Hooksett ORT (Programmed Cost $20.5M) targeted opening June 2012
    - Bedford ORT (Programmed Cost $20.5M) targeted 2014

Study Area

- Study area : Manchester I–293 Interchange to Stateline
- Existing toll plaza locations (shown red dot)
- Manchester Airport Access Road layout (shown in orange)
- Existing two-lane sections (shown in yellow)



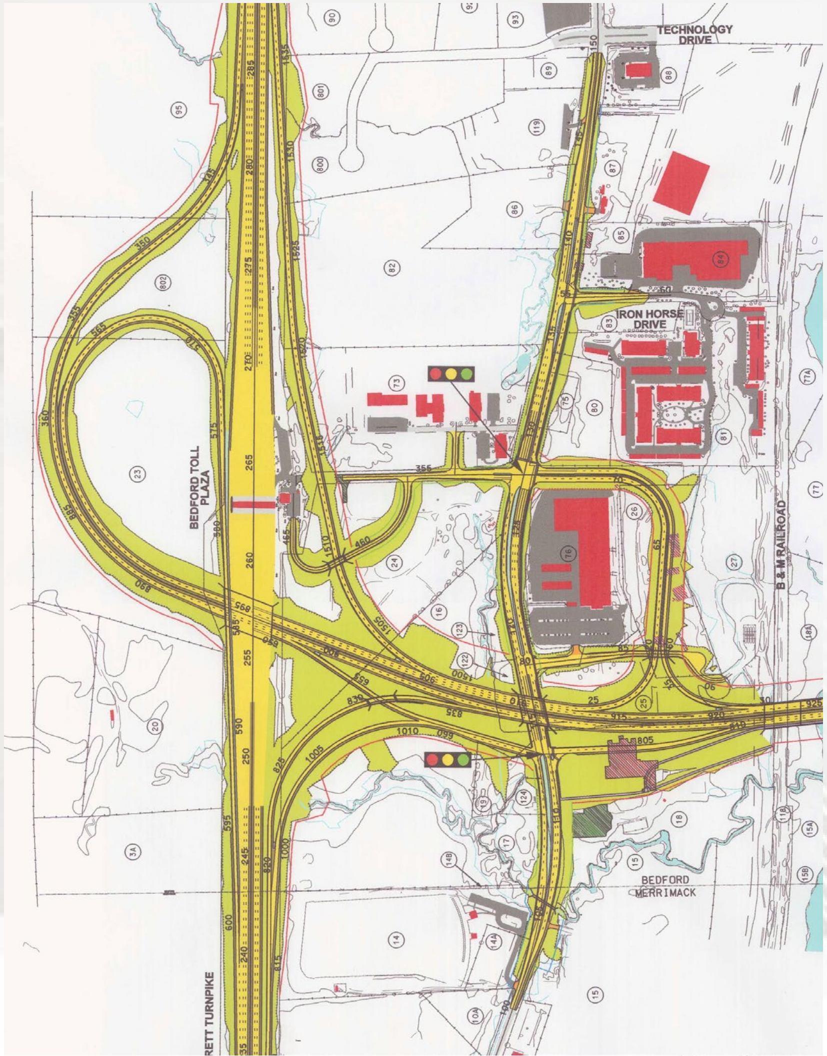
Pertinent Tolling Issues

- Currently, Bedford Plaza
  - Processes 47,600 vpd (17.4M transactions in FY10)
  - $1 toll rate structure raises $16.1M per year (**13.8% of the total for Turnpike System**)
- Currently, Merrimack Ramp Plazas
  - Process 22,000 vpd (7.7M transaction in FY10)
  - 50¢ toll rate structure raises $3.2M per year)
  - Controls / Limits diversion off the Turnpike
- Currently motorists to and from south of Manchester Airport Access Road (MAAR)
  - Pay a toll at Bedford Plaza
  - Motorists to and from the north access the Airport via Brown Avenue and pay no toll.

Pertinent Tolling Issues (con't)

- **The MAAR, as planned now, will open with free access to the Airport from the north and south.**
- Traffic & Revenue Estimates project 6.8M vehicles will avoid the Bedford & Merrimack tolls & use the MAAR equating to a **loss of revenue of $5.8M per year. (4.5% loss of system wide revenue).**

Loss of revenue hampers ability to address future unmet capital needs



Pertinent Widening Elements

HB 2010 Legislation Includes:

- Nashua-Bedford: Engineering Study of FEET Widening (Exit 8 to I-293)

Department Investigated:

- Deficiencies
- Capacity Issues
- Safety Related Elements
- Structural Elements (bridges)
- Constraints (ROW, Environmental)
- Developed Conceptual Plans
- Developed Cost Estimates

Study of FE Everett Turnpike

Widening Study

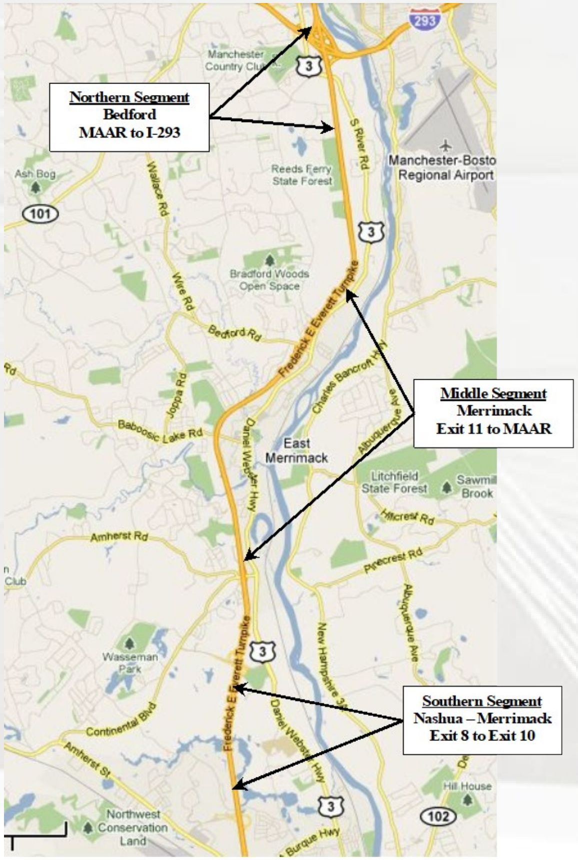
John Butler, P.E.
Senior Preliminary Design Engineer
New Hampshire Department of Transportation Bureau of Highway Design

F.E. Everett Turnpike Widening – Necessity & Feasibility Study

- Deficiencies
- Capacity Issues
- Safety Issues
- Geometric Issues
- Bridge Structural and/or Condition Issues
- Constraints (ROW, Environmental)

F.E. Everett Turnpike Widening – Existing Two Lane Segments

- Southern segment
- Middle segment
- Northern segment



Northern Segment
Bedford
MAAR to I-293

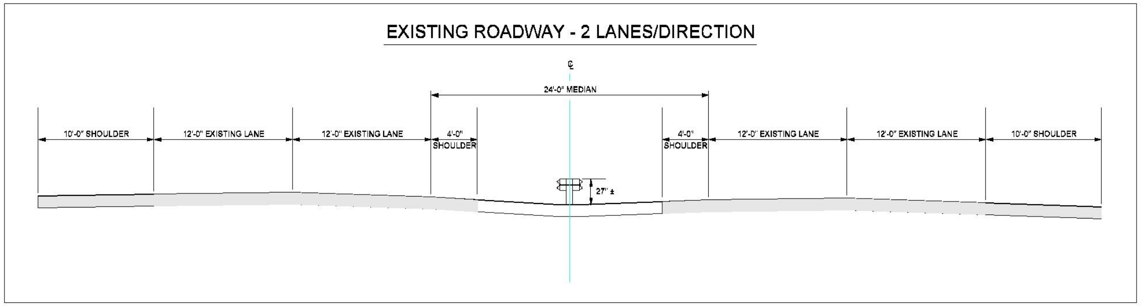
Middle Segment
Merrimack
Exit 11 to MAAR

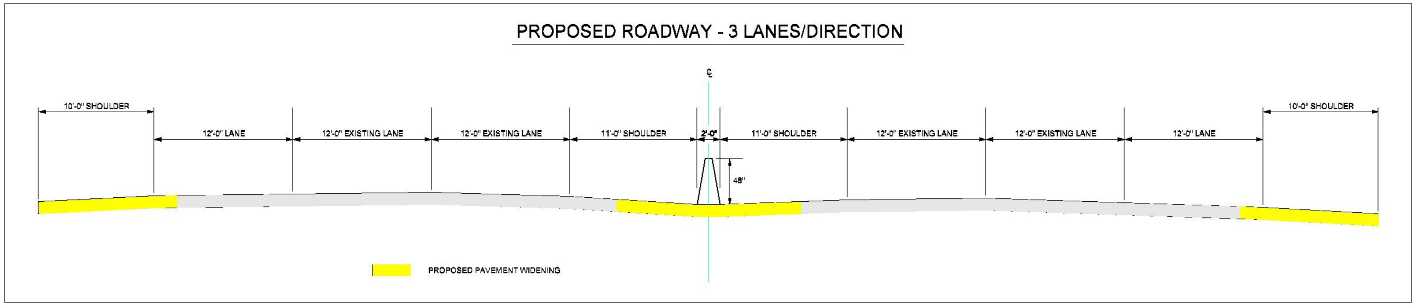
Southern Segment
Nashua – Merrimack
Exit 8 to Exit 10

F.E. Everett Turnpike Widening – Project Need

- Improve Safety
- Improve Capacity and Operation
- Address 5 Bridges

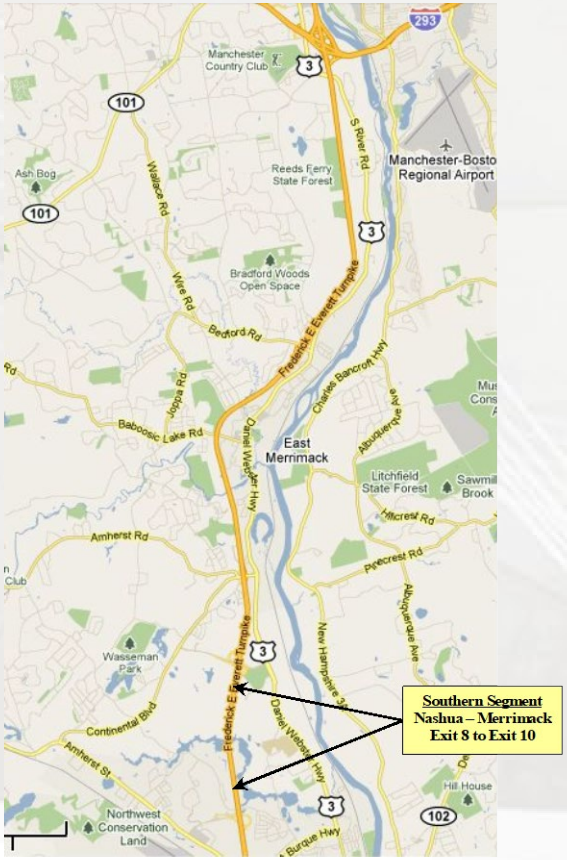
F.E. Everett Turnpike Widening – Typical Cross Section


EXISTING ROADWAY - 2 LANES/DIRECTION


PROPOSED ROADWAY - 3 LANES/DIRECTION

F.E. Everett Turnpike Widening – Southern Segment

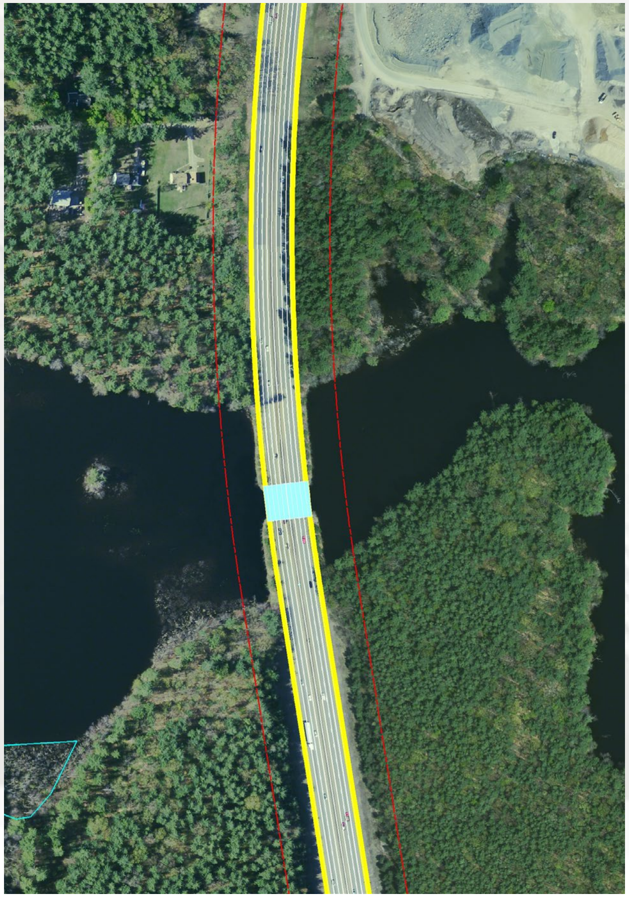
- Nashua – Merrimack
- Between Exit 8 and Exit 10
- 1.5 miles long
- $14 million



Southern Segment
Nashua – Merrimack
Exit 8 to Exit 10

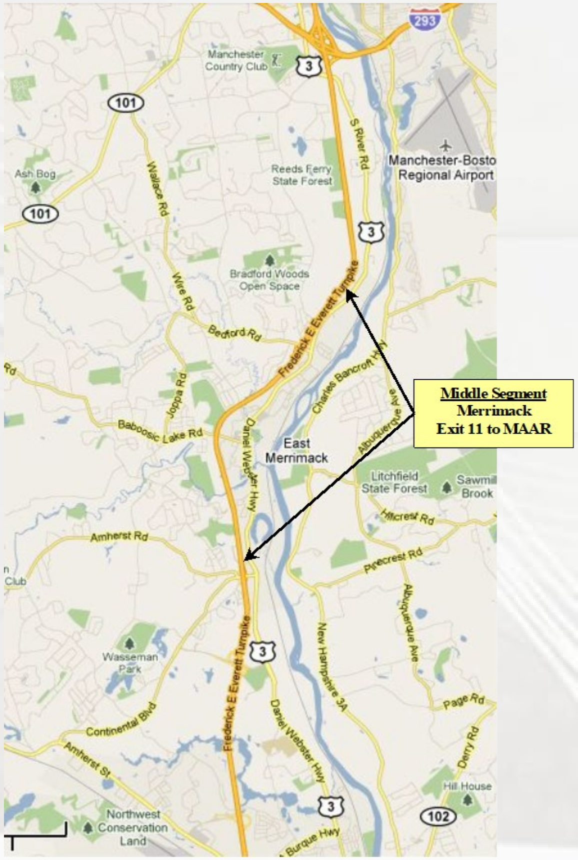
F.E. Everett Turnpike Widening – Southern Segment

- Widen bridges over Pennichuck Brook
- Environmentally sensitive



F.E. Everett Turnpike Widening – Middle Segment

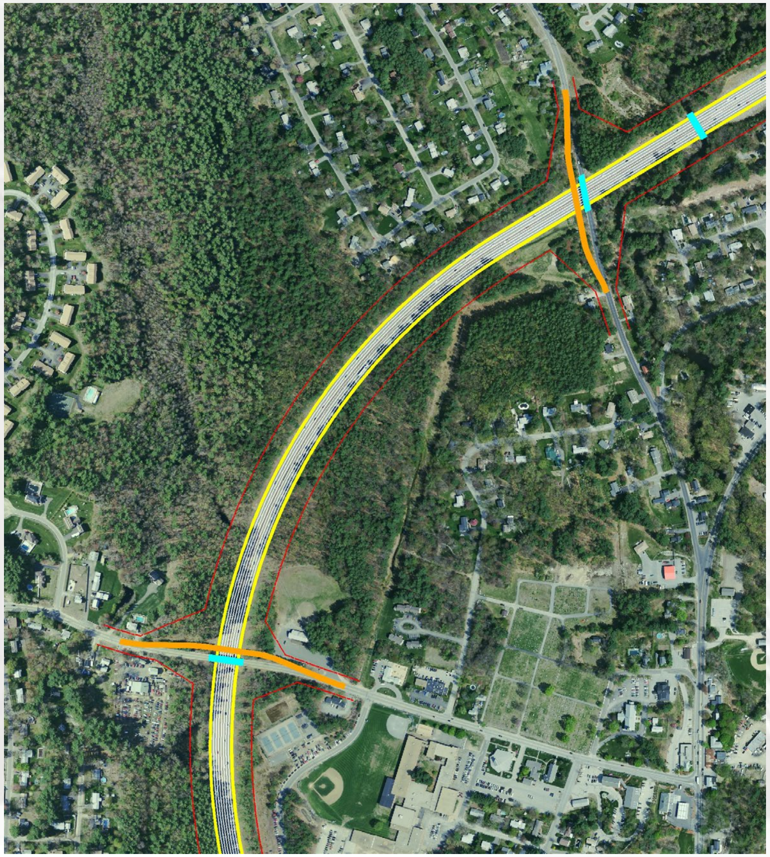
- Merrimack
- Between Exit 11 and MAAR
- 5.3 miles long
- $45 million



Middle Segment
Merrimack
Exit 11 to MAAR

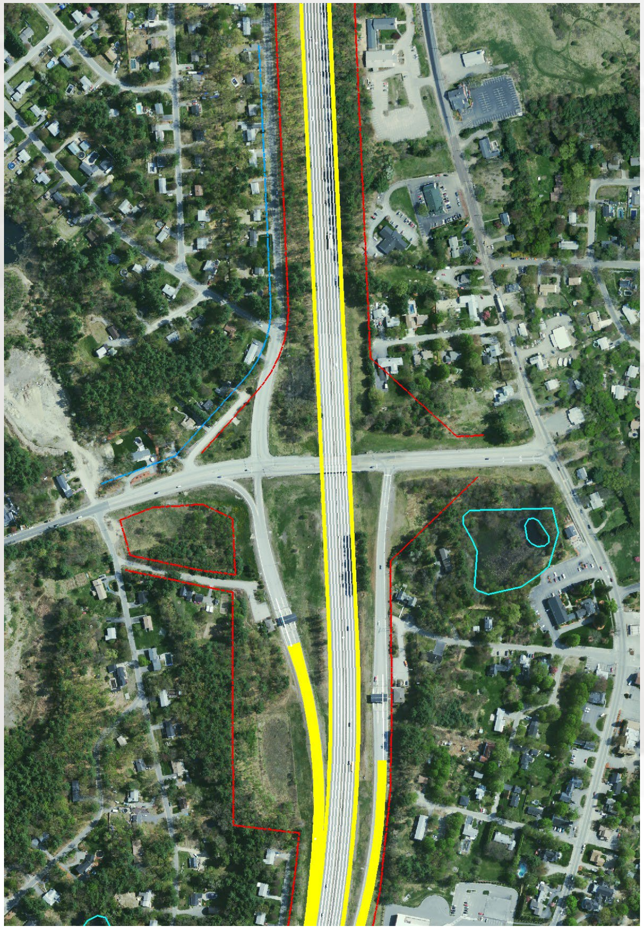
F.E. Everett Turnpike Widening – Middle Segment

- Replace Wire Road and Baboosic Lake Road bridges



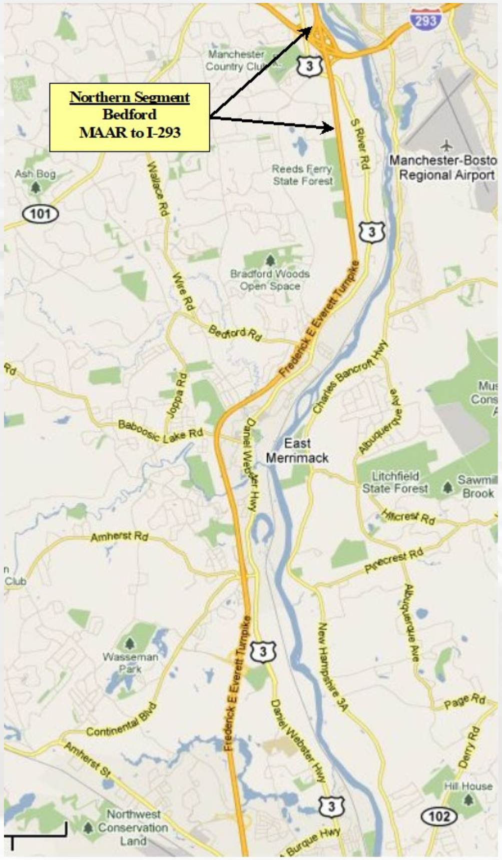
F.E. Everett Turnpike Widening – Middle Segment

- Exit 12



F.E. Everett Turnpike Widening – Northern Segment

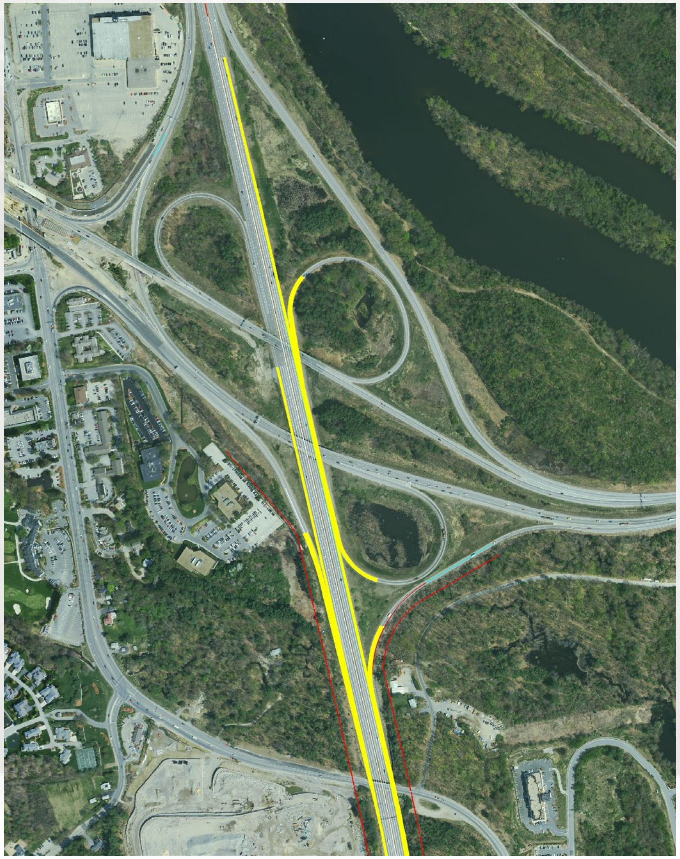
- Bedford
- Between MAAR and I-293 interchange
- 1.3 miles long
- $11 million



Northern Segment
Bedford
MAAR to I-293

F.E. Everett Turnpike Widening – Northern Segment

- I-293 interchange



F.E. Everett Turnpike Widening – Future Steps

- Secure/Identify Support
- Secure Funding & Legislative Authorization
- Initiate Project
  - Collect survey, develop design
  - Identify property impacts
  - Identify environmental impacts
  - Stormwater treatment design
  - Sound wall evaluation
  - Conduct Public Meetings/Hearings

F.E. Everett Turnpike Tolling Study

Scott Allaire

Vice President

WilburSmith
ASSOCIATES

New Hampshire DOT
Department of Transportation

Tolling Study Methodology

- Obtain Travel Demand Models for the Area
- Perform License Plate Survey
  - Percentage of in-State/out-of-State traffic
- Run Traffic Models for Each Alternative
  - Estimate Toll Traffic and Diversion
  - Estimate Annual Gross Toll Revenue
- Estimate Operation & Maintenance Costs
- Estimate Capital Costs
- Calculate Net Toll Revenue

License Plate Survey Results

- Two Locations along the Everett
  - South of Exit 10 and South of Exit 1
  - Weekday and Weekend Day Survey

- South of Exit 10
  - Approximately 30 percent out-of-State Traffic
- South of Exit 1
  - Approximately 50 percent out-of-State Traffic

Toll Collection Options

- Conventional Toll Collection
  - Mixture of Cash Toll Collection and E-ZPass
  - Conventional Toll plaza (i.e. Bedford Plaza)
  - Requires a Stop or Slow Down to Pay Toll
  - Operational Costs of Cash Collection and Lane Maintenance
- Open Road Tolling (ORT)
- All Electronic Toll (AET) Collection

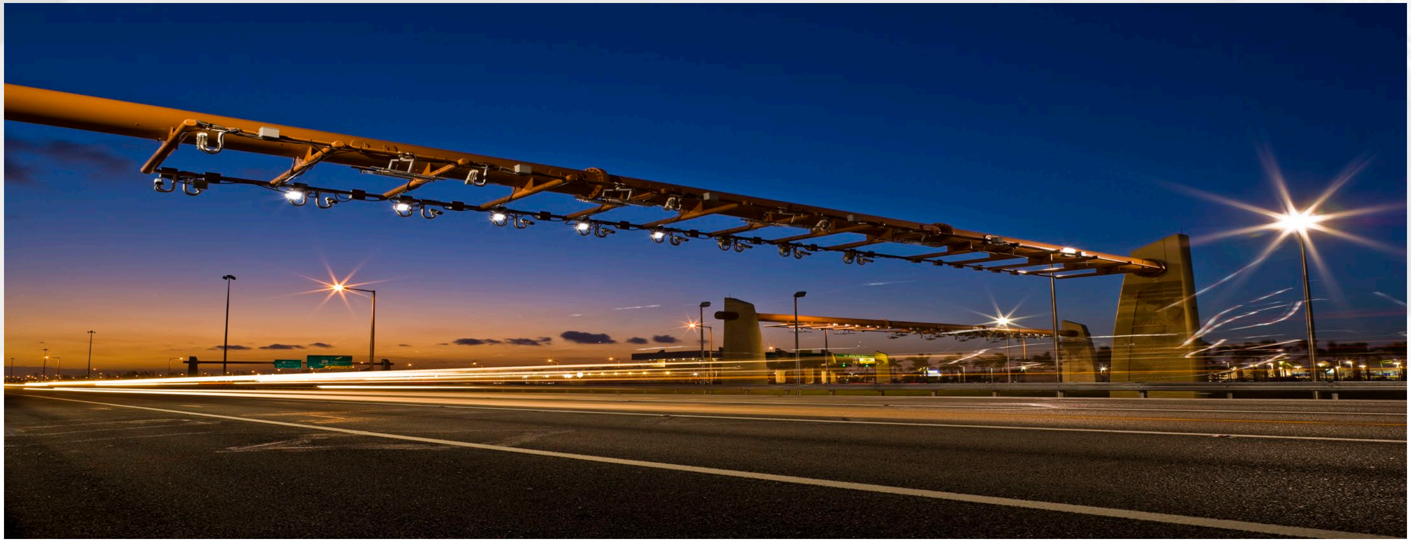
Toll Collection Options (con't)

- Open Road Tolling (ORT)
  - High Speed Operation for E-ZPass Users – Highway Speed
  - Cash Customers Still Required to Stop to Pay Toll
  - Similar Costs to Conventional Toll Collection

Hampton ORT Opened 6/17/10

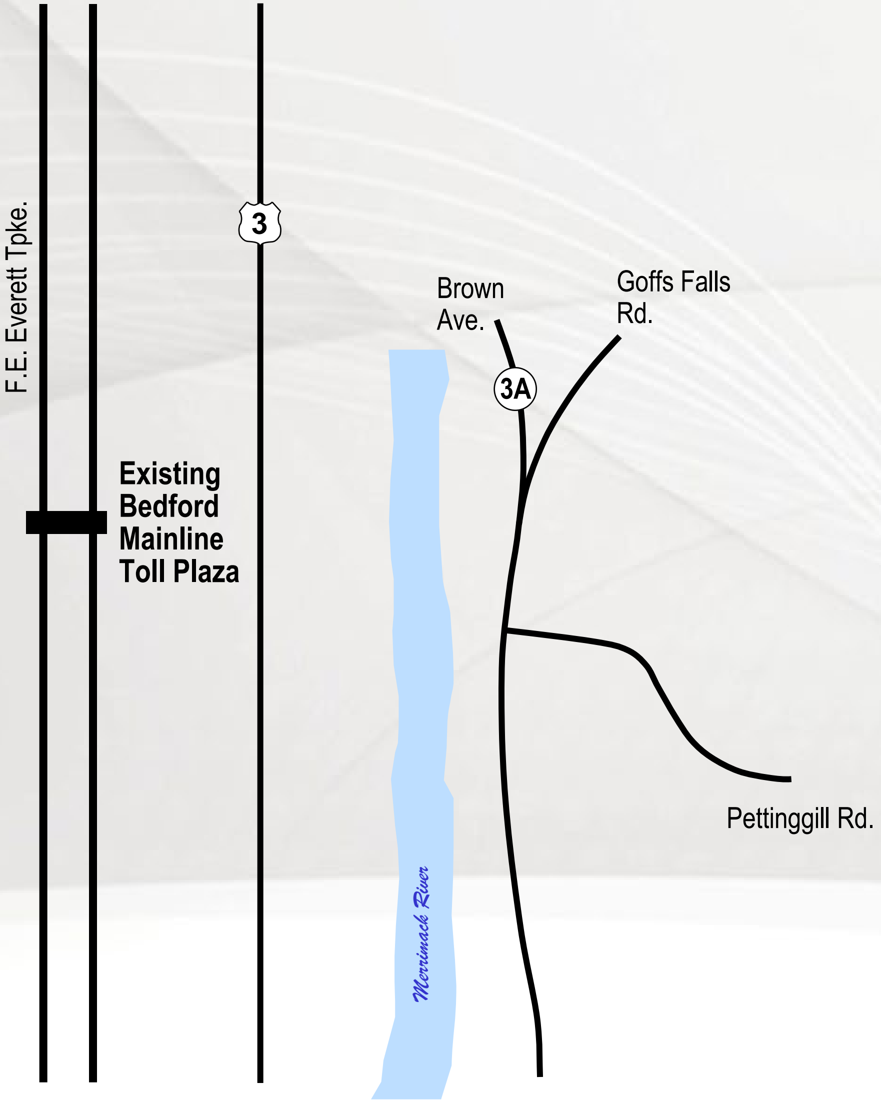
Toll Collection Options (con't)

- All Electronic Toll (AET) Collection
  - High Speed Operation / No Impact on Highway Traffic
  - Can be Placed Virtually Anywhere Along the Corridor
  - All Travelers are Electronic Customers (E-ZPass or Video)
  - Reduced Capital & Infrastructure Costs – No Cash Collection
  - Additional Back Office Equipment, Staffing & Processing Costs
  - Out-of-State Collection Issues (need for reciprocity agreements)
  - Privacy Issues (need for anonymous accounts)



Bedford Mainline Plaza
No Build (No MAAR Implemented)

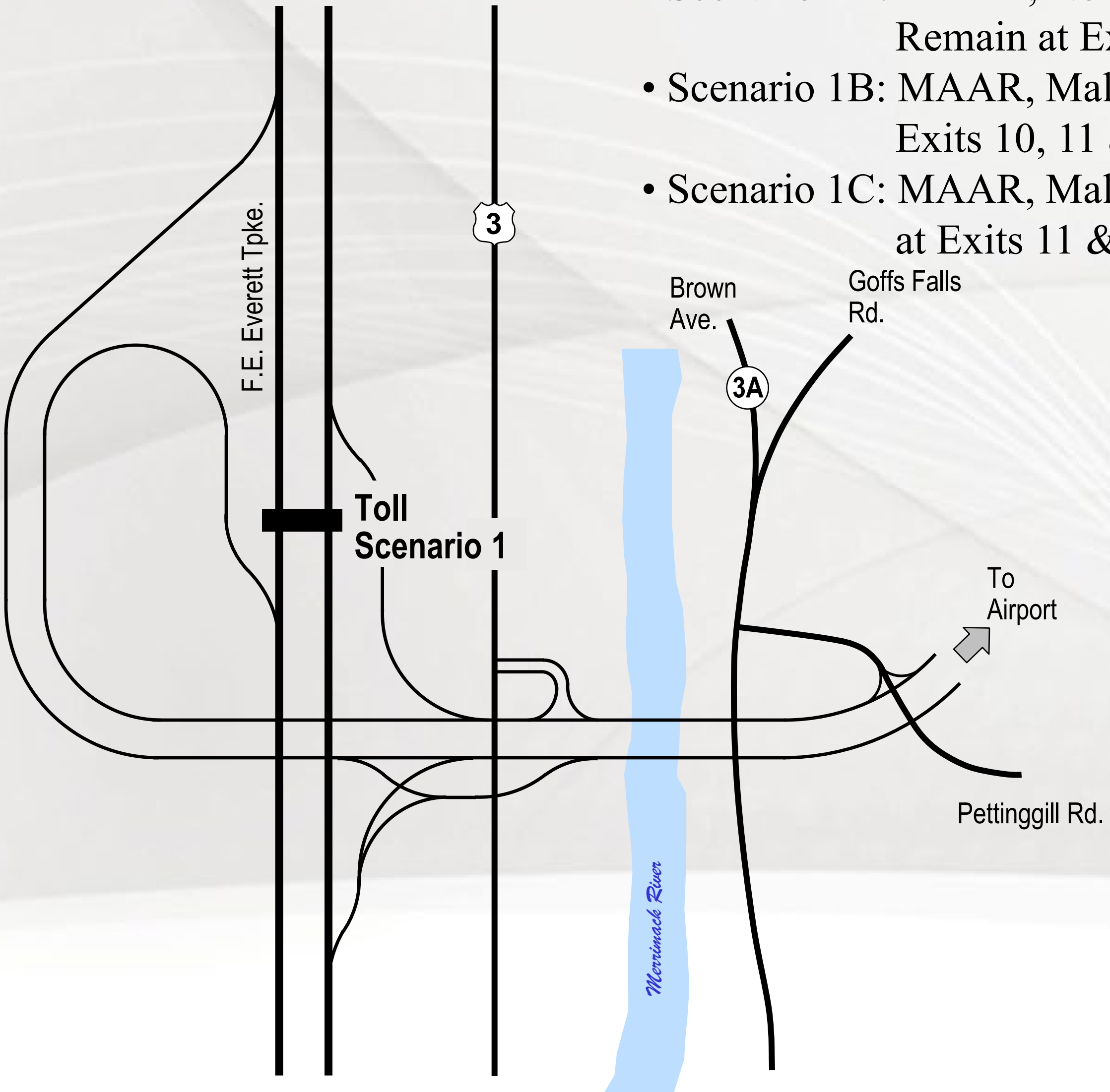
Current Condition



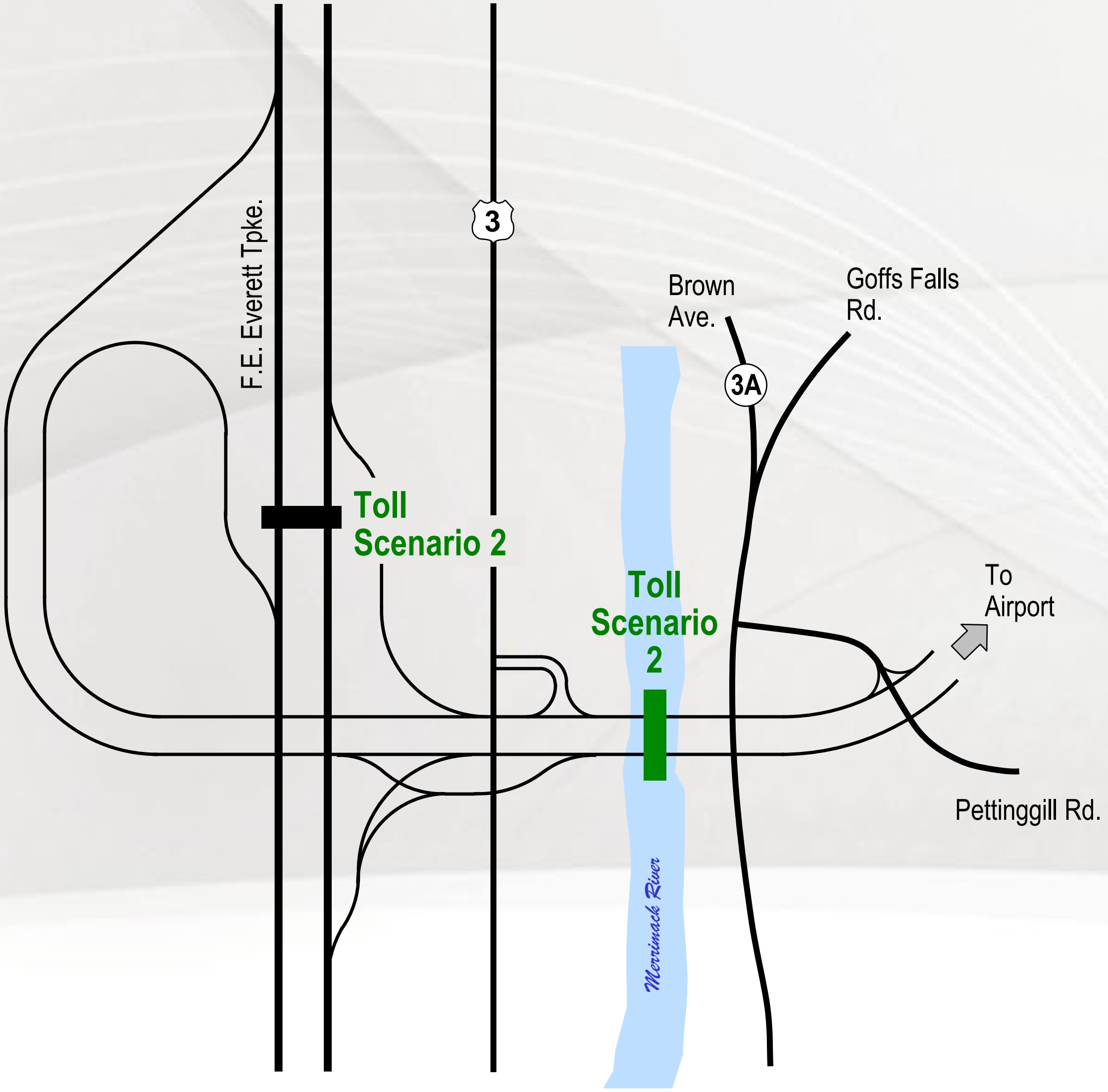
Bedford Mainline Plaza Toll Scenario 1

3 Alternatives:

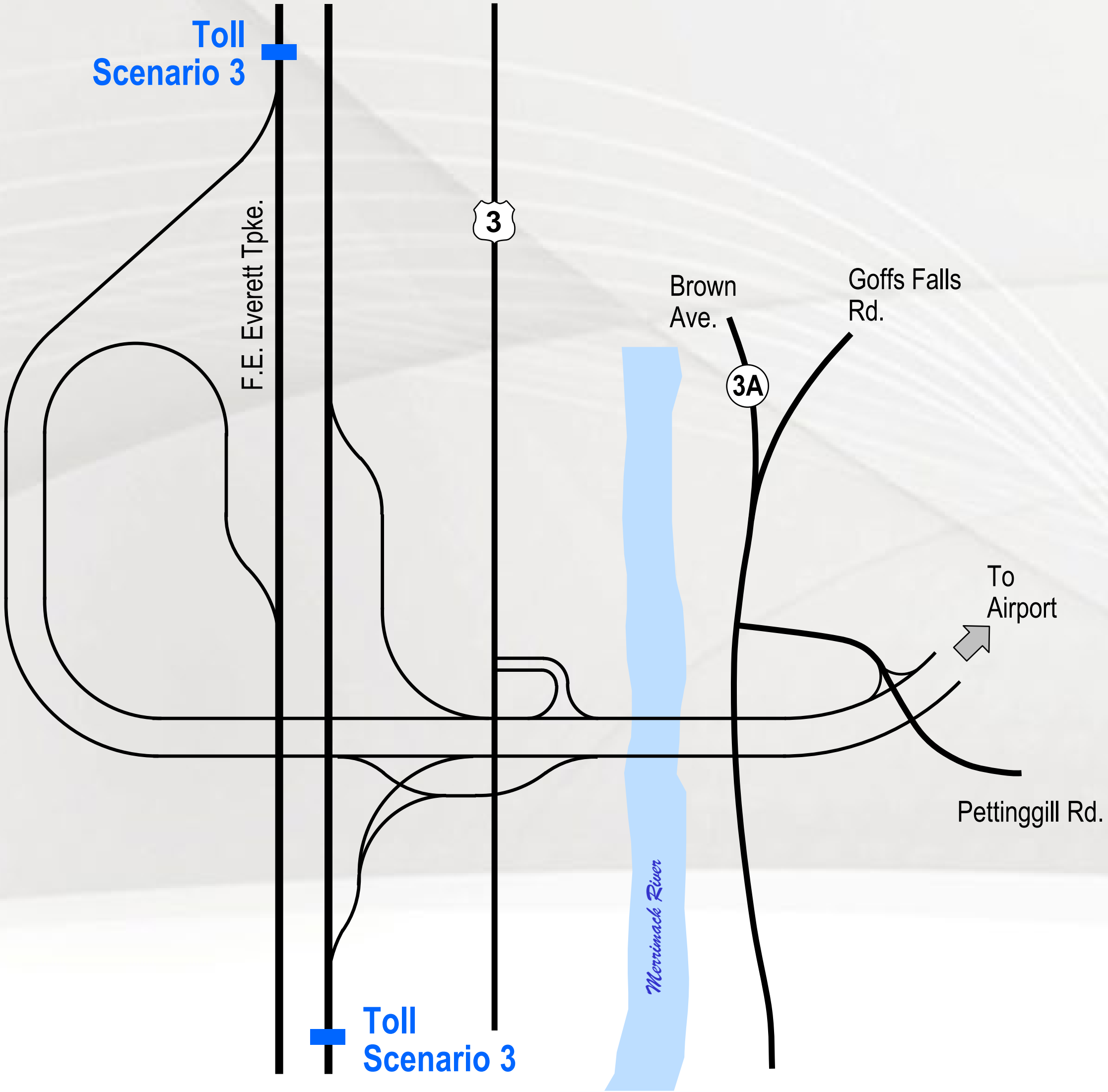
- Scenario 1A: MAAR, No Mall, Tolls Remain at Exits 10, 11 & 12
- Scenario 1B: MAAR, Mall, Tolls Remain at Exits 10, 11 & 12
- Scenario 1C: MAAR, Mall, Tolls Removed at Exits 11 & 12



Bedford Mainline Plaza
Toll Scenario 2



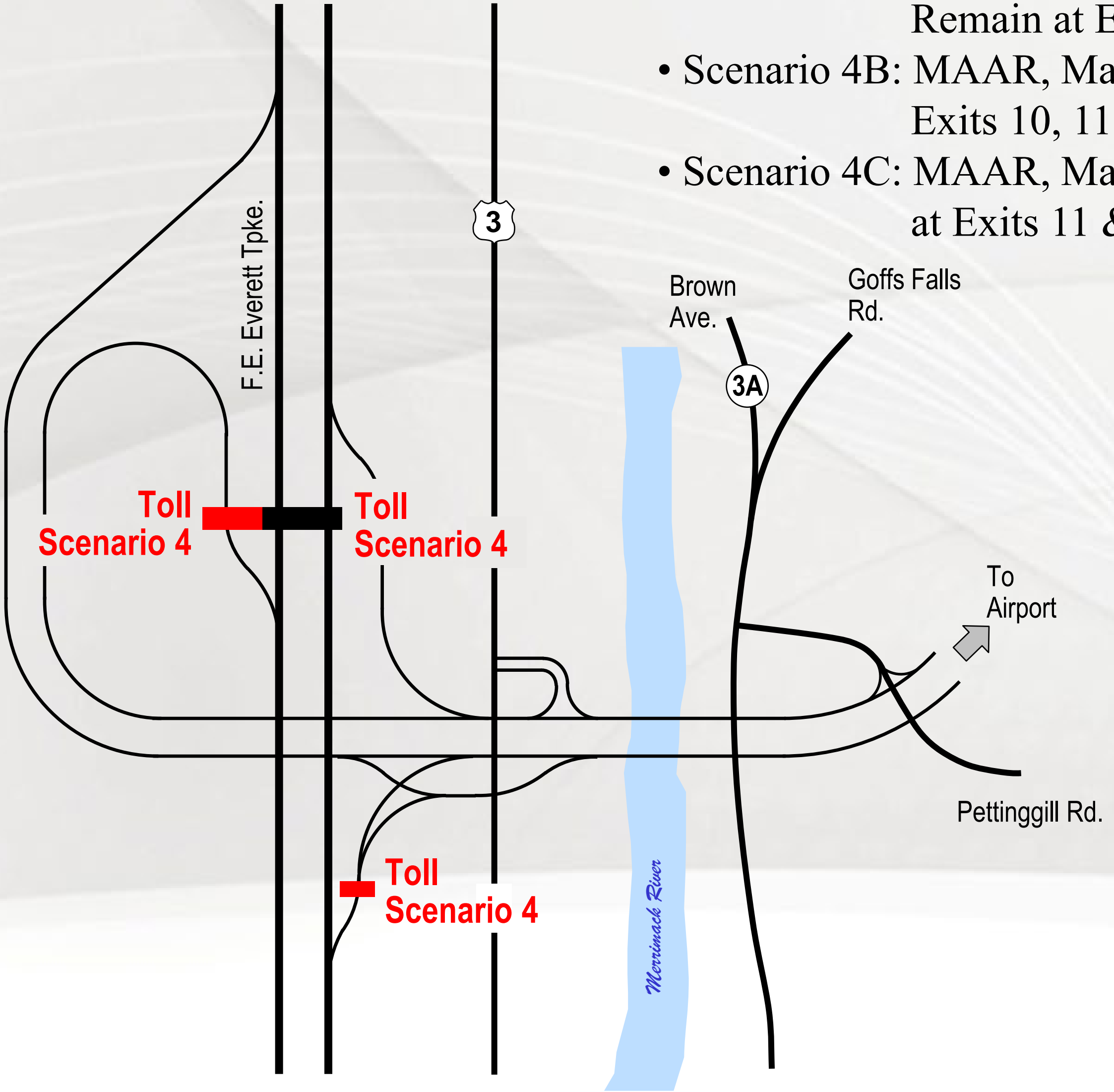
Bedford Mainline Plaza Toll Scenario 3



Bedford Mainline Plaza
Toll Scenario 4

3 Alternatives:

- Scenario 4A: MAAR, No Mall, Tolls Remain at Exits 10, 11 & 12
- Scenario 4B: MAAR, Mall, Tolls Remain at Exits 10, 11 & 12
- Scenario 4C: MAAR, Mall, Tolls Removed at Exits 11 & 12



Bedford Scenarios - Findings

- Scenario 1B
  - Reduction in Gross Toll Revenue as Compared to the No Build Condition ($4.5 Million Annually)
  - Toll-Free Movements to and from the MAAR
  - Toll Evasion via the MAAR Ramps

- Scenario 2
  - Slight Increase in Gross Toll Revenue over the No Build
  - Large Reduction in MAAR Traffic Volumes (35 percent)
  - Toll Evasion via the MAAR Ramps
  - Significant Reimbursement of Funds to FHWA
  - Higher Operational Cost (AET)

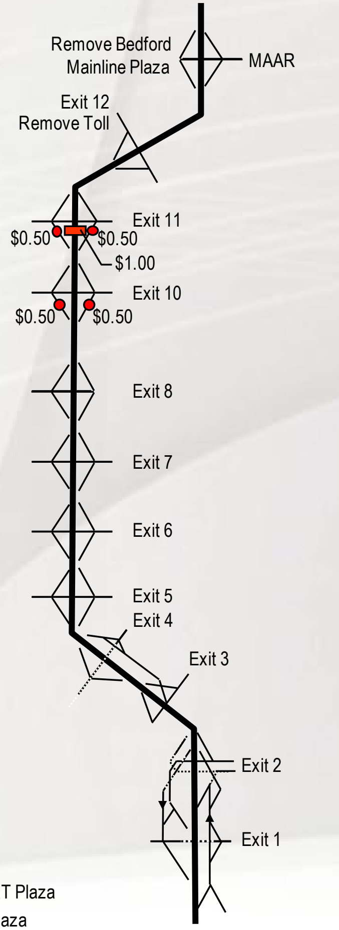
Bedford Scenarios - Findings (continued)

- Scenario 3
  - Slight Increase in Gross Toll Revenue over the No Build
  - Reimbursement of Funds to FHWA
  - Higher Operational Cost (AET)
  - Moderate Capital Cost for AET and Bedford Plaza Removal
- Scenario 4B
  - Revenue “Neutral” Outcome to No Build Condition
  - All traffic to and from the south pays toll (current condition)
  - Minor Capital Cost
  - Reimbursement of Funds to FHWA
  - Slightly Higher Operation and Maintenance Cost

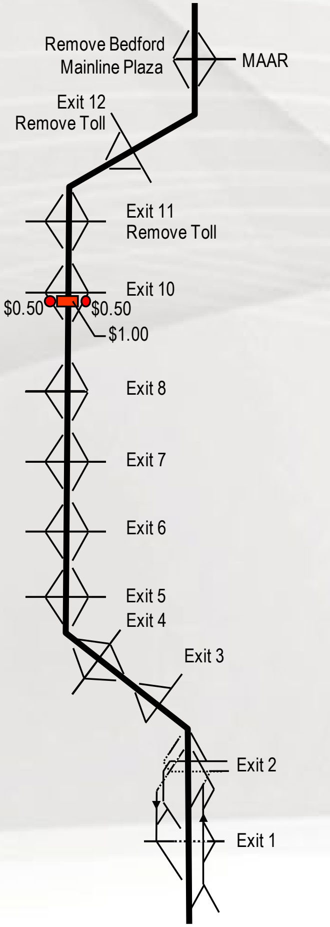
Scenarios 2 and 3 Eliminated

Relocation Scenarios

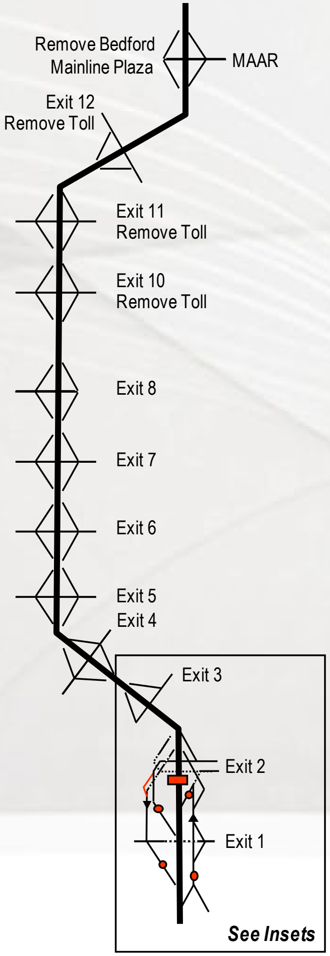
Scenario 5
New Mainline ORT Plaza at Exit 11



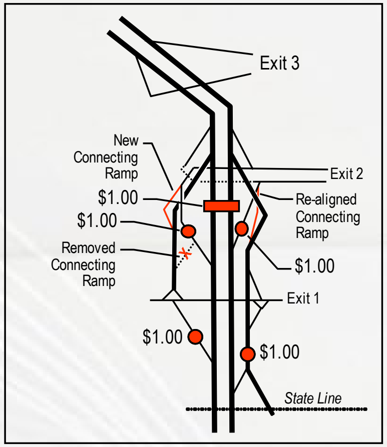
Scenario 6
New Mainline ORT Plaza at Exit 10



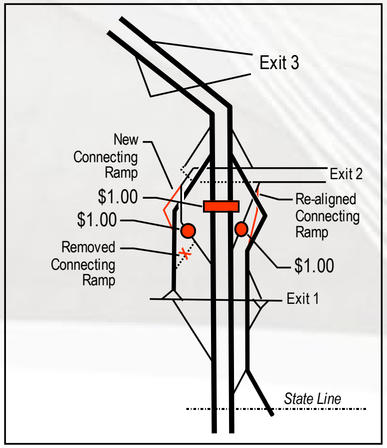
Scenario 7 / 8
New Mainline ORT Plaza in Nashua



Inset – Scenario 7



Inset – Scenario 8

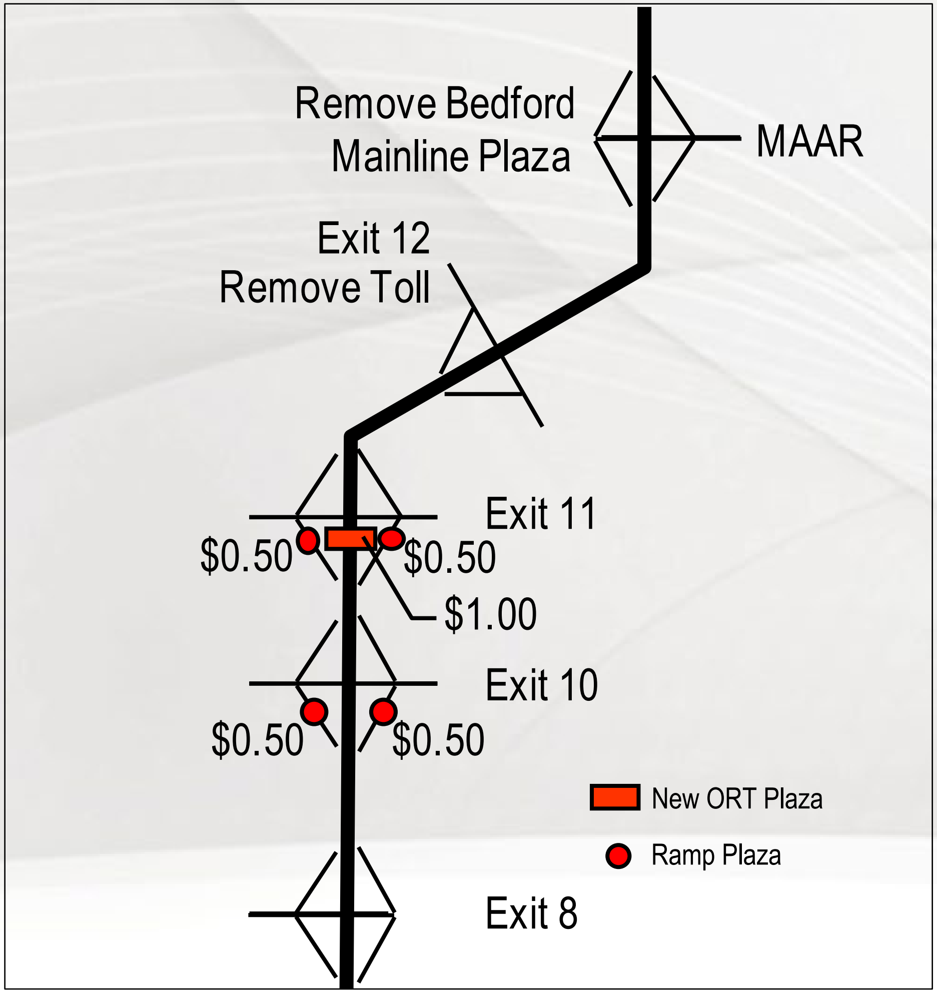


🟥 New ORT Plaza
● Ramp Plaza

Note: Toll rates shown are passenger vehicle toll rates.
New Hampshire E-ZPass discounts for passenger vehicles are assumed to be 30% of base rate.

New Hampshire DOT Department of Transportation

New Mainline ORT Plaza at Exit 11 Scenario 5



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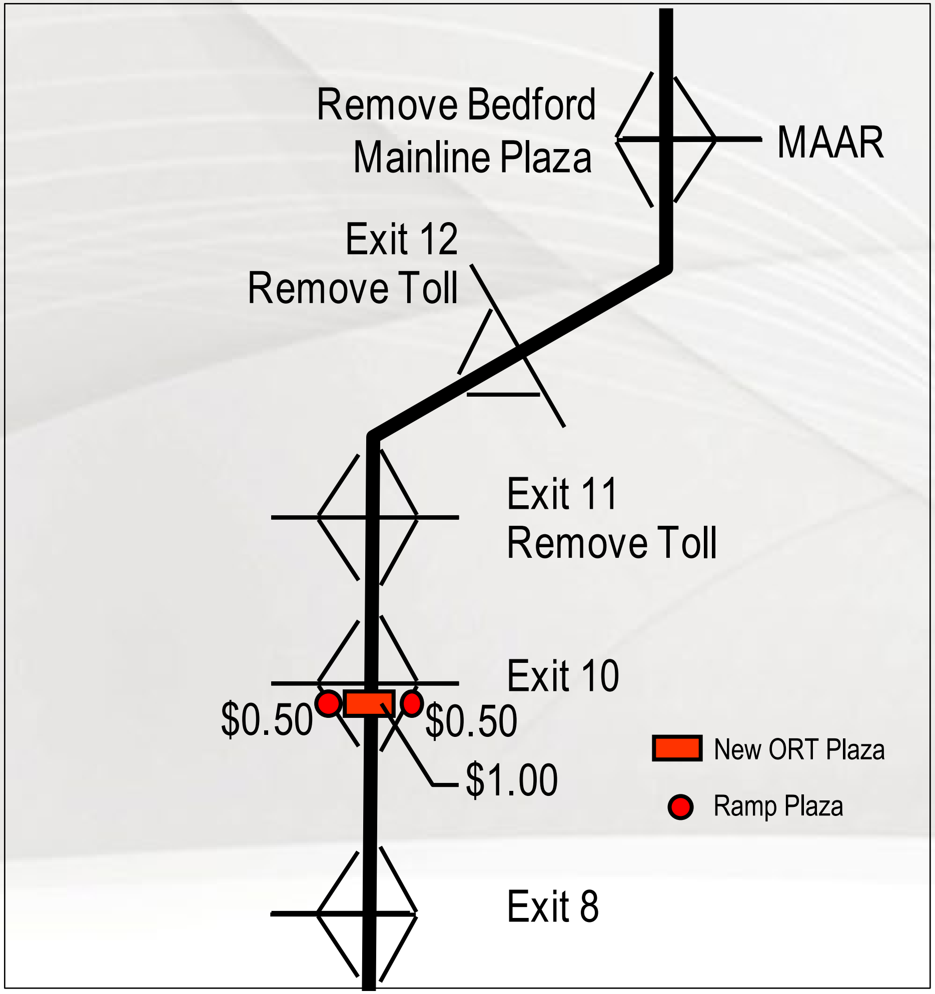
New Mainline ORT Plaza at Exit 10 Scenario 6



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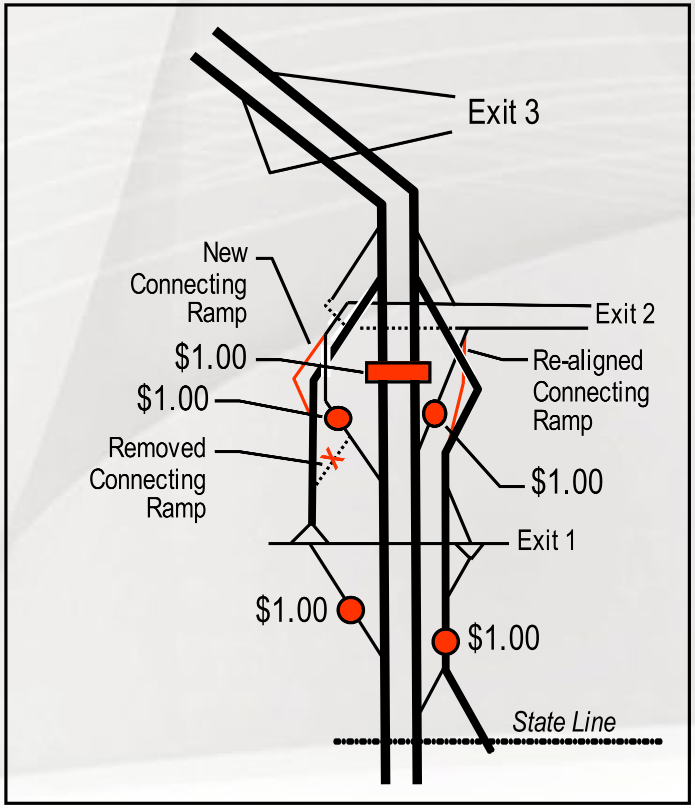
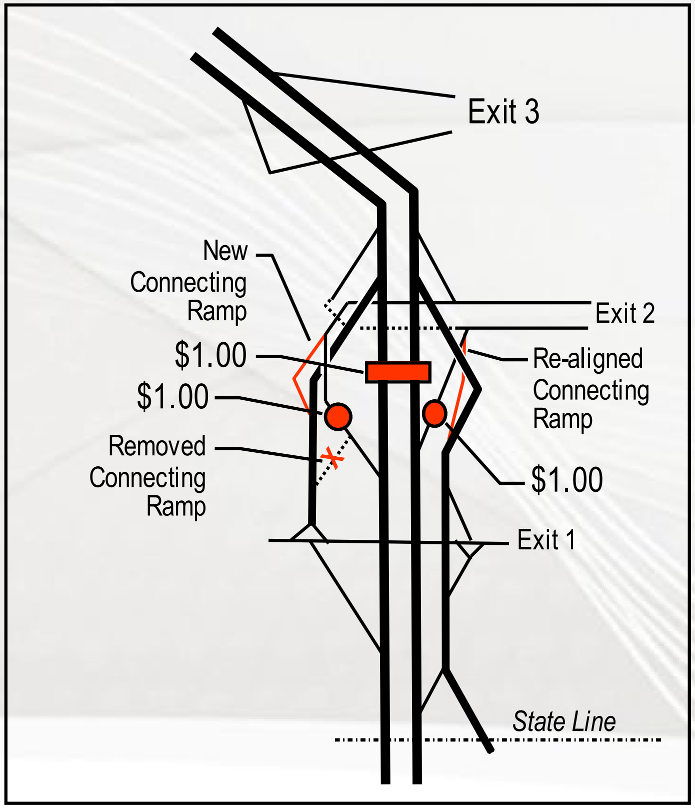
New Mainline ORT Plaza in Nashua Scenarios 7 and 8

Scenario 7



Scenario 8



🟥 New ORT Plaza

● Ramp Plaza

Note: Toll rates shown are passenger vehicle toll rates.
New Hampshire E-ZPass discounts for passenger vehicles are assumed to be 30% of base rate.

Relocation Scenarios - Findings

- Scenario 5
  - Lower Gross Toll Revenue than No Build Condition ($3.6M)
  - High Capital Cost
  - Moderate Toll Diversion to Local Roads
- Scenario 6
  - Lower Gross Toll Revenue than No Build Condition ($4.2M)
  - Lower Operating Cost
  - Moderate Capital Cost
  - Minor Overall Diversion Impact

Relocation Scenarios - Findings

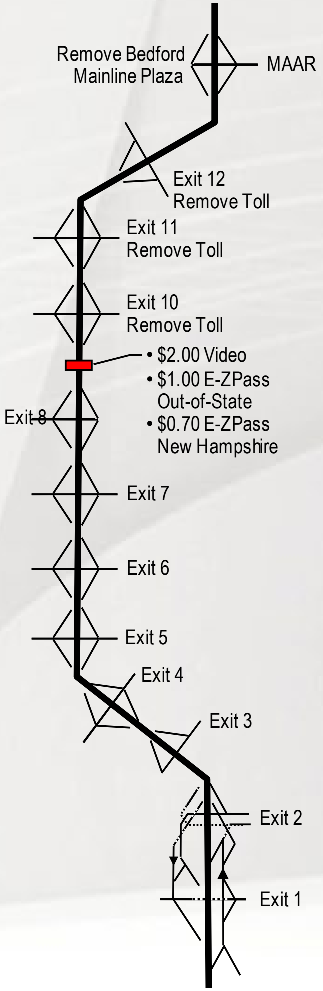
- Scenario 7
  - Highest Gross Toll Revenue among Relocation Scenarios
  - High Capital Cost
  - Significant Diversion Impact

- Scenario 8
  - Lower Gross Toll Revenue than No Build Condition due to Toll Diversion ($2.3M)
  - High Capital Cost
  - Significant Diversion Impacts

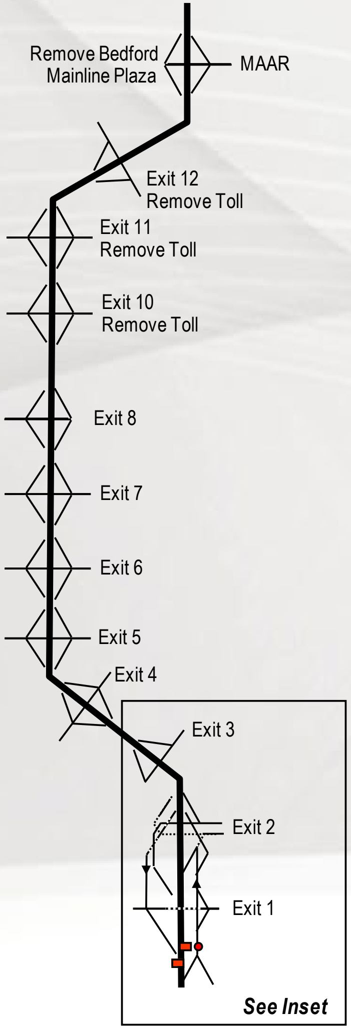
Scenario 8 Eliminated

AET Scenarios

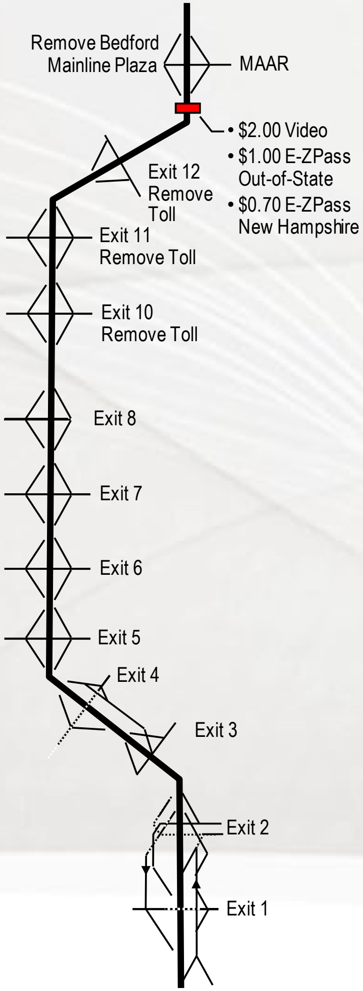
Scenario 9
New Mainline AET Plaza South of Exit 10



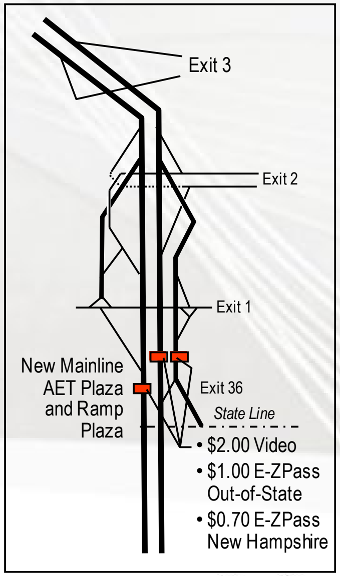
Scenario 10
New Mainline AET Plaza and Ramp Plaza in Nashua



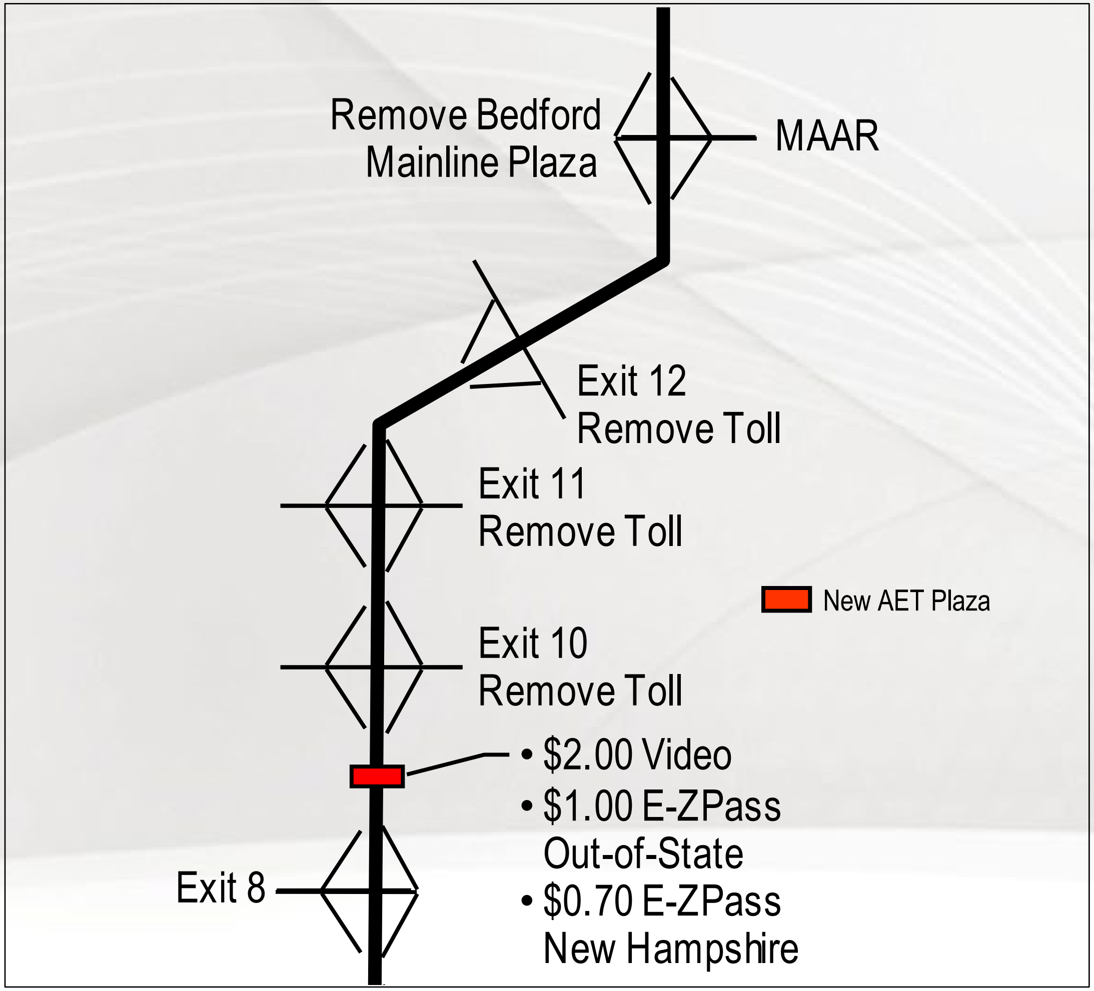
Scenario 11
New Mainline AET Plaza South of MAAR



Inset – Scenario 10


Exit 3
Exit 2
Exit 1
New Mainline AET Plaza and Ramp Plaza
Exit 36
State Line
• $2.00 Video
• $1.00 E-ZPass Out-of-State
• $0.70 E-ZPass New Hampshire

New Mainline AET Plaza South of Exit 10 Scenario 9



Remove Bedford Mainline Plaza

MAAR

Exit 12
Remove Toll

Exit 11
Remove Toll

🟥 New AET Plaza

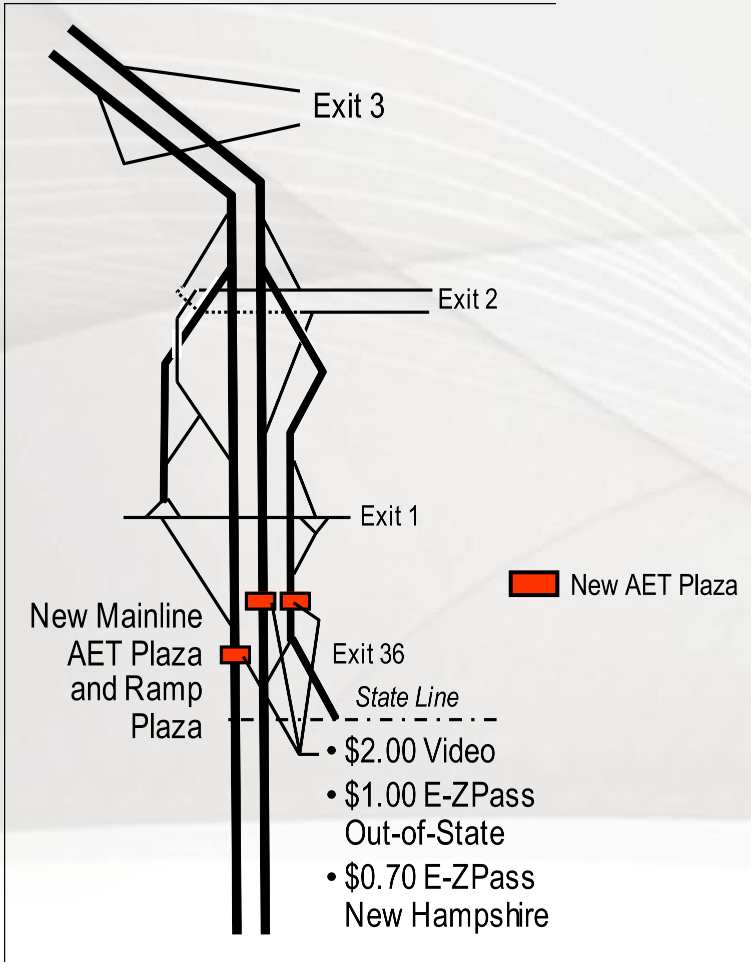
Exit 10
Remove Toll

- $2.00 Video
- $1.00 E-ZPass
  Out-of-State
- $0.70 E-ZPass
  New Hampshire

Exit 8

Note: Toll rates shown are passenger vehicle toll rates.

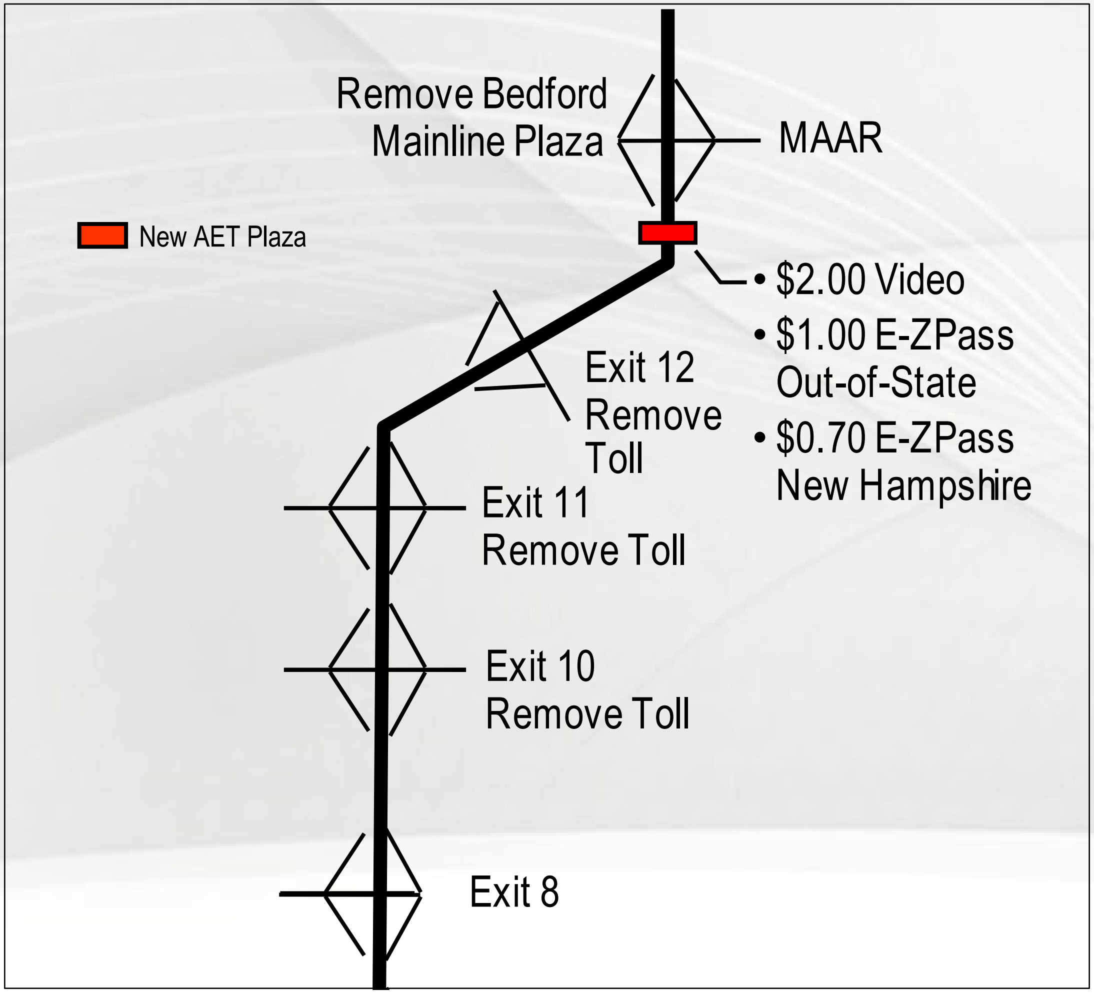
New Mainline AET and Ramp Plaza in Nashua - Scenario 10



- $2.00 Video
- $1.00 E-ZPass Out-of-State
- $0.70 E-ZPass New Hampshire

Note: Toll rates shown are passenger vehicle toll rates.

New Mainline AET Plaza South of MAAR Scenario 11



- $2.00 Video
- $1.00 E-ZPass Out-of-State
- $0.70 E-ZPass New Hampshire

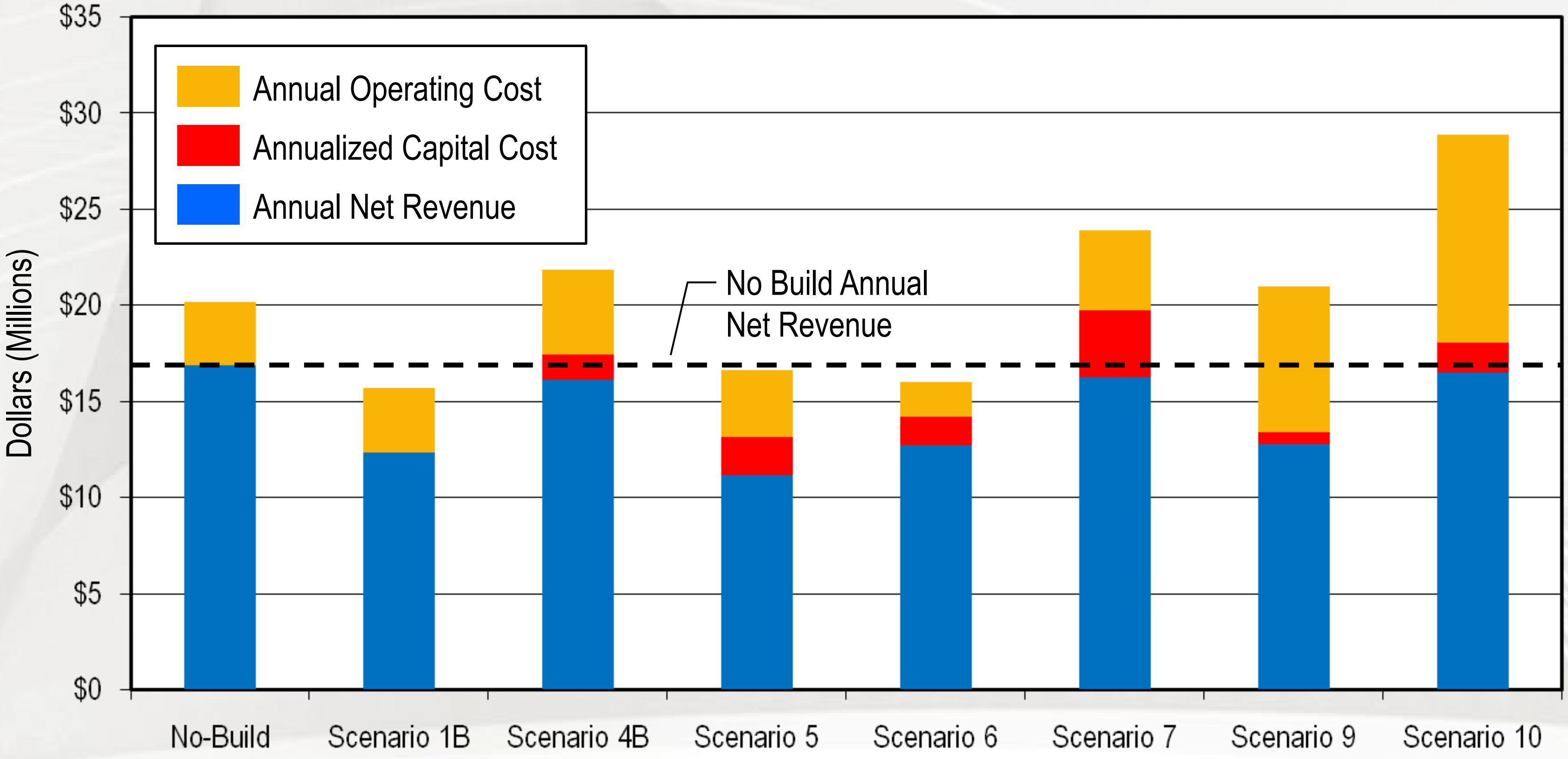
Note: Toll rates shown are passenger vehicle toll rates.

AET Scenarios - Findings

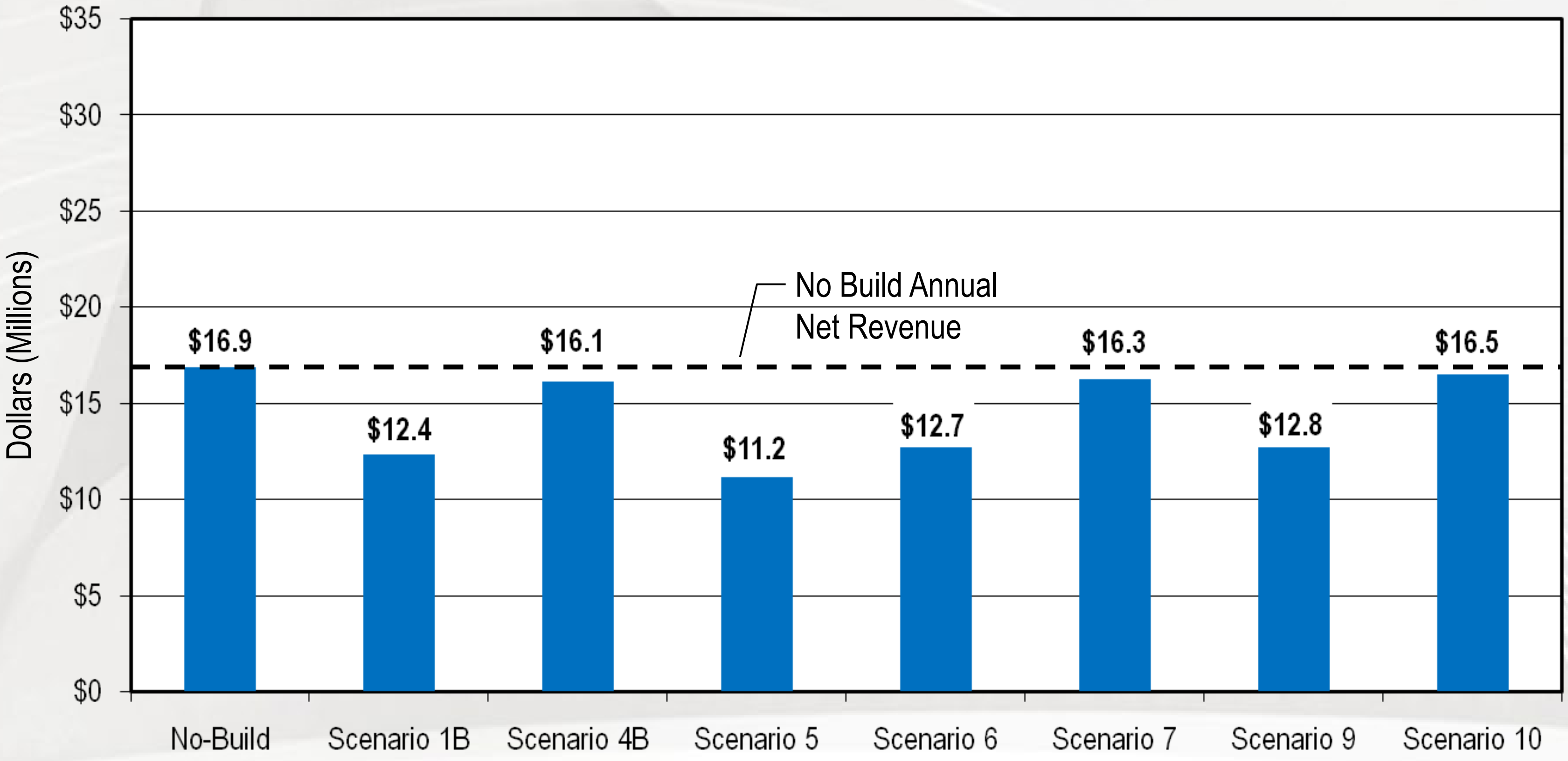
- Scenario 9
  - Gross Toll Revenue Similar to No Build
  - High Operating Cost / Low Capital Cost
- Scenario 10
  - Highest Gross Toll Revenue
  - Highest Operating Cost / Medium Capital Cost
- Scenario 11
  - Lower Gross Toll Revenue than No Build Condition ($2.0M)
  - Significant Loss of Toll Revenue (toll evasion at Exit 12 and toll removal at Exits 10, 11, and 12)
  - High Operating Cost / Additional Capital Cost for AET

Scenario 11 Eliminated

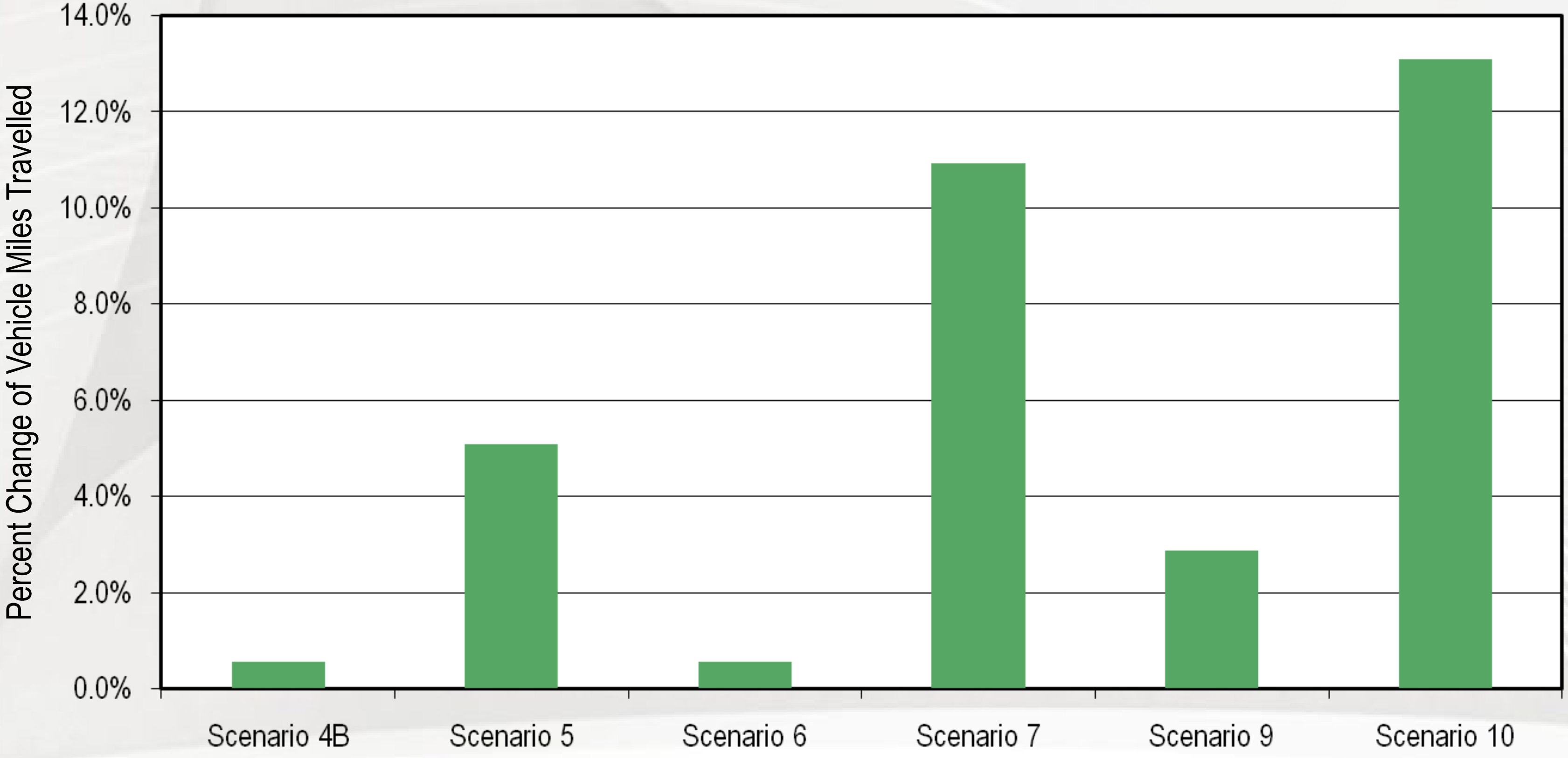
Annual Revenue Minus Annual Operating and Annualized Capital Cost



Annual Net Toll Revenue



Percent Reduction in VMT on Impacted Turnpike Section (represents measure of potential diversion and impact on local road network)



New Hampshire DOT Department of Transportation

Summary Comparison of Annual Net Revenue and Diversion Impacts

Comparison of 2012 Net Revenue and Diversion Impacts

Scenario	Annual Net Toll Revenue (Millions)	Annual Net Toll Revenue Surplus versus Scenario 1B (Millions)	% VMT Reduction on Impacted Turnpike
No Build (1)	$16.9	$4.5	---
1B	$12.4		---
4B	$16.1	$3.7	-0.6%
5	$11.2	($1.2)	-5.1%
6	$12.7	$0.3	-0.6%
7	$16.3	$3.9	-10.9%
9	$12.8	$0.4	-2.9%
10	$16.5	$4.1	-13.1%

Note: (1) No Build (no MAAR) is shown as a base condition for comparison purposes only.

Study Steps

- Completed Traffic and Revenue Studies to estimate financial implications of the Alternatives.
- Completed operating, maintenance, and construction costs for viable Alternatives.
- Identified potential FHWA reimbursement for scenarios involving tolling MAAR ramps and bridge.
- Developed an engineering feasibility study for widening existing two-lane sections (each direction) of FE Everett Turnpike.
- Gather input from four public informational meetings (Nashua, Merrimack, Bedford, Manchester).
- Assess financial impact and present final report to Governor, GACIT, House, Senate, and Legislative Committees.

F.E. Everett Turnpike Tolling & Widening Feasibility Study

QUESTION & COMMENT PERIOD

- Open Public Forum
- Comment Cards
- E-mail: cwaszczuk@dot.state.nh.us